

**UNITED STATES DISTRICT COURT  
MIDDLE DISTRICT OF NORTH CAROLINA**

Louisiana-Pacific Corporation and	)	
Louisiana-Pacific Canada Ltd.,	)	
	)	
Plaintiffs,	)	
	)	
vs.	)	Case No.: 1:12-cv-625
	)	
Akzo Nobel Coatings, Inc., Akzo	)	
Nobel Coatings, Ltd., and John Does 1-10,	)	
	)	
Defendants.	)	

**AFFIDAVIT OF DENIS BERTHIAUME**

The undersigned, Denis Berthiaume, being duly sworn, deposes and says:

1. I am over 18 years of age, am competent to testify regarding all matters contained in this affidavit, and am a resident and citizen of Quebec, Canada.
  
2. I am the General Manager, Akzo Nobel Wood Coatings Ltd., Warwick, Quebec, Canada. I am fully familiar with the facts and circumstances of this action as set forth herein. I was involved with the development and sale of coatings, including CanExel Dual Resin M, to Louisiana-Pacific Canada Ltd. ("LP Canada") for use on its CanExel prefinished siding. I was also involved with investigations into warranty claims made by LP Canada related to its CanExel siding. My involvement included, in part, regularly interacting and meeting with employees of LP Canada.
  
3. Akzo Nobel Coatings Ltd. ("Akzo Nobel") is a Canadian company with its headquarters and principal place of business in Canada.

4. Akzo Nobel manufactured and supplied coatings for CanExel prefinished siding beginning in the early 1980's. All of the coatings supplied by Akzo Nobel for use on CanExel siding were manufactured in Quebec, Canada.

5. LP Canada began manufacturing CanExel siding in 2001, after Louisiana-Pacific Corporation ("LP Corp.") acquired ABT Canada Ltd. ("ABT Canada"), which previously manufactured CanExel siding.

6. LP Canada and its predecessor, ABT Canada, manufactured CanExel siding exclusively in East River, Nova Scotia. Both ABT Canada and LP Canada applied the coating to the CanExel siding in East River, Nova Scotia.

7. In 1999, ABT Canada informed Akzo Nobel that it was switching from softwoods to hardwoods when manufacturing CanExel siding and sought a coating for the new hardwood siding.

8. ABT Canada, and later LP Canada, worked with Akzo Nobel to identify a coating for use on hardwood CanExel siding. Between 1999 and 2001, Akzo Nobel and LP Canada/ABT Canada extensively tested the new hardwood CanExel siding with different coatings.

9. In 2001, LP Canada approved a custom dual resin coating ("CanExel Dual Resin M") for use on its CanExel siding.

10. The development and formulation of the new coating occurred primarily in Canada by Akzo Nobel employees. In developing the new CanExel coating at its plant in

Quebec, Akzo Nobel requested and considered data and advice from its U.S. affiliate, Akzo Nobel Coatings, Inc., which had experience with other dual resin coating systems.

11. As with previous coatings for softwood CanExel siding, Akzo Nobel manufactured CanExel Dual Resin M coating in Quebec, Canada. LP Canada purchased CanExel Dual Resin M coating from Akzo Nobel in Quebec. Akzo Nobel shipped the coating from Quebec to LP Canada in East River, Nova Scotia. LP Canada then applied the coating to CanExel siding at its East River, Nova Scotia facility.

12. In 2003, LP Canada and Akzo Nobel entered into a 15-year Warranty related to the performance of the CanExel Dual Resin M coating on the hardwood CanExel siding. The Warranty provided: “This Warranty Agreement shall be governed by and construed in accordance with the laws of the Province of Nova Scotia.” A true and accurate copy of the 2003 Warranty is attached hereto as Exhibit A.

13. The 2003 Warranty replaced a May 17, 1997 Warranty between ABT Canada and Akzo Nobel that also provided: “This Warranty Agreement shall be governed by and construed in accordance with the laws of the Province of Nova Scotia.”

14. In 2007, LP Canada began receiving an increasing number of claims related to its CanExel siding, which it attributed to the CanExel Dual Resin M coating. LP Canada advised Akzo Nobel of this increase in 2008, at which point it worked with LP Canada to investigate the causes of these increased claims.

15. The following individuals were significantly involved in the development and formulation of the CanExel Dual Resin M coating: Roger Couture, Jean Francois

Caron, Chuck Walker, and Kathy Maljaie. All four of these individuals reside in Canada. Of these four individuals, only Mr. Couture is currently employed by an Akzo Nobel entity or affiliate.

16. The following individuals were significantly involved in the manufacture and sale of CanExel Dual Resin M coating to LP Canada, along with the investigation of pre-suit claims related to the coating: Denis Berthiaume, Denis Blanchette, Fernand Gemus, Jean Francois Caron, Jim Bignell, and Forest Fleming. Mr. Berthiaume, Mr. Blanchette, Mr. Gemus, Mr. Caron, and Mr. Bignell reside in Canada. Mr. Fleming resides in North Carolina. Of these six individuals, Mr. Gemus, Mr. Caron, and Mr. Bignell are no longer employed by an Akzo Nobel entity or affiliate.

17. The following individuals were significantly involved with LP Canada's purchase of CanExel Dual Resin M coating, manufacture of CanExel siding, and investigation of pre-suit claims: Barry Smith, Bill Camp, George Hirtle, Chris Mader, David Ritter, Jack Johnson, and Phil Ellwood. Of these seven individuals, Mr. Smith, Mr. Camp, Mr. Mader, and Mr. Ellwood are no longer employed by LP Corp. or LP Canada. Mr. Smith, Mr. Camp, Mr. Hirtle, and Mr. Mader reside in Canada. Mr. Ritter resides in Tennessee, and Mr. Johnson resides in Michigan. I do not know where Mr. Ellwood resides.

18. The Akzo Nobel employees who were on site at LP Canada's East River, Nova Scotia facility during CanExel siding production shifts include: Jim Bignell, Chuck Walker, Shawn Meisner, Mark Fitch, Fernand Audette, and Michael Heisler. Of these six

individuals, only Mr. Audette is a current employee of an Akzo Nobel entity or affiliate. All of these individuals reside in Canada.

19. Rad Darby is not currently employed by an Akzo Nobel entity or affiliate and resides in Virginia.

20. The vast majority of documents related to the CanExel Dual Resin M coating are kept in Canada. These documents include development, manufacturing, quality control, sales, testing, and claim investigation files. The manufacturing and quality control documents are located in Canada in hard copy form and are extremely voluminous.

Executed on October 31, 2012

  
\_\_\_\_\_  
Denis Berthiaume

Dûment assermenté devant Me Yves Giguère, notaire,  
250, rue Notre-Dame Est, Victoriaville, Québec, G6P 4A1,  
à Victoriaville, province de Québec, le trente et un  
octobre deux mil douze (2012-10-31).

  
\_\_\_\_\_  
Me Yves Giguère, notaire



# Exhibit A

Akzo Nobel Coatings Ltd.

15 YEAR WARRANTY

1. SUBJECT OF WARRANTY

This warranty applies to waterborne, mono-color and semi-clear coating systems consisting of (a) a basecoat and a clear topcoat (with basecoat added to a maximum of 20%) or (b) white basecoat only, and used to achieve certain color effects. (which systems are hereinafter called Akzo Nobel Mono-color and Semi-clear Coatings Systems") supplied by Akzo Nobel Coatings Ltd. ("Akzo Nobel") to Louisiana-Pacific Canada Limited, East River Plant ("L-P East River"). It is made subject to the definitions contained in paragraph 4 and to compliance with all of the conditions contained in paragraph 3.

2. WARRANTY

Akzo Nobel warrants that the Akzo Nobel Mono-color and Semi-clear Coatings Systems, consisting of the materials described in Appendix A, when applied by L-P East River in accordance with the procedure set forth in Appendix B to embossed exterior hardboard siding having the raw board quality specifications set forth in Appendix D will, provided the conditions of Section 3 are complied with, under normal atmospheric conditions:

- a. adhere satisfactorily to the substrate;
- b. not peel, blister, crack or check;
- c. vertical installation of single color (topcoated or basecoat only) coated siding will not change color from the effects of weathering by more than eight  $\Delta E$  units.
- d. the multitone or styling effect displayed when multicolored or stained coated siding is installed vertically shall remain visually evident upon weathering during the warranty period.

for a period of fifteen (15) years from date of installation, on a pro-rated basis as laid out in Appendix E, to the extent that if failure of such warranty should occur during such fifteen (15) year period, and if, because of a warranty extended by L-P East River to the ultimate user:

- (i) L-P East River is required to refinish the siding, Akzo Nobel will furnish or pay for the coating and reimburse L-P East River for the reasonable cost of surface preparation, priming if required, to refinish the failed siding with one coat of exterior opaque paint including labor costs for repainting, the remainder of the warranty continuing in effect; or



- (ii) L-P East River is required to replace the siding, Akzo Nobel will reimburse

L-P East River for the reasonable cost of replacement siding, excluding installation and labor costs, as per the warranty described in Appendix E.

The warranty does not apply to failure of or damage to the siding caused by acts of God, fire, physical defacement, abrasion, improper installation, abuse or misuse of the siding, or resulting from the use of other coatings or departure from raw siding board quality specifications, referred to in Appendix D, or any other cause not arising out of a defect or deficiency in the Akzo Nobel Mono-color and Semi-clear Coatings Systems, nor any claims for blistering, peeling or cracking that result from contamination of the coatings at time of manufacture, where dust, wood particles, dirt or other impurities are incorporated in the coating surface prior to or during the curing, or from post-curing contamination nor for markings from transfer belts, wheels, abrasion, water spotting, packing, strapping or other physical defacements or deformation that occur during packaging, storing or shipping, nor where the adhesion of the coating has been affected by surface contaminations on the boards prior to coating.

Without prejudice to the rights of Akzo Nobel under the Warranty, and without diminution of those rights, L-P East River shall be entitled to deal directly with the holder of a customer warranty and to honor, reject, or settle any claims under such customer warranty.

### 3. CONDITIONS

The warranty is conditional upon compliance with the following:

- a) The Akzo Nobel Mono-color and Semi-clear Coatings Systems must be mixed, applied and cured in accordance with the specification set forth in Appendices A & B, on boards where complete coverage has taken place including drip edge.
- b) L-P East River must comply with the quality procedures set forth in Appendix C, and print the product code number on the reverse side of the board at the manufacturing plant during production;
- c) Damage cannot have been caused due to storage conditions, in particular by storage conditions that encourage condensation, or where the coating has been subjected to condensation, ice or snow while in a horizontal position.
- d) The coated boards are used as siding products only when they are in

position on the building structure. The warranty specifically excludes the use of ripped hard board siding as trim; or defects caused by the use of trim of any kind over the warranted piece of siding, such as color variation, mold growth and board decay.

- e) All warranty claims must be made in writing to Akzo Nobel within 36 months, which is accepted as a reasonable notification period, of receipt of notice by L-P East River of a claim of failure including the production code number of the plant to which the claim applies. L-P East River will review its complaint file with Akzo Nobel on a yearly basis, as regards paint failure claims.
- f) The date of siding installation must be no longer than eighteen months from the time of actual factory application of coatings; if this time period is exceeded, the warranty shall begin in the nineteenth month after coating application regardless of whether the siding is installed on a structure or remains in proper warehouse storage.

#### 4. DEFINITIONS

##### "Blister or Blistering"

Means that areas of the coating are detached and raised from the underlying substrate or intermediate layers of coatings.

##### "Cracking or Checking, Crack or Check"

Means a break in the coating having the designated film thickness as

described in Appendix B which extends through the surface layer of the finish to the substrate or intermediate layers of coating of a magnitude or no worse than No. 6 as shown in Pictorial Standards of Coating Defects of ASTM D661-93 for Cracking Resistance and ASTM D660-93 for Checking Resistance.

"Peel or Peeling"

Means the pulling away or falling away of pieces of the coating from the substrate or intermediate layers of coatings.

"Color Change from the Effects of Weathering"

Means the  $\Delta E$  change when measured by Hunter Colorimeter No. 45°/0° D25-PC  $\Delta$  #15610 after washing and drying the coated siding panels per agreed upon techniques by Akzo Nobel and L-P East River (for reference see ASTM D2244-93 and ASTM D3964-80).

"Normal Outdoor Atmospheric Conditions"

Does not include corrosive or aggressive atmosphere such as those contaminated with chemical fumes or liquid sprays from standing bodies of fresh or salt water.

"Film Thickness"

The film thickness is that layer of dry mil thickness above the microscopically visible board surface, including attached fibers but excluding free fibers which are encapsulated in the layer itself. See ASTM D5235-97.

"Akzo Nobel Mono-Color and Semi-Clear Coating Systems"

Means (a) basecoat and a clear topcoat (with basecoat added to a maximum of 20%) or (b) basecoat only selected from the product list in Appendix A.

"Multicolored or Stained Coated Siding"

Means siding produced by applying a special effect decorative layer to basecoated siding. Such a layer may be applied directly to the basecoat or included as pigmentation in the topcoat; but in either case a continuous layer of topcoat must protect the special color effect.

##### 5. LIMITATION OF LIABILITY

This warranty is in addition to any warranty to which Akzo Nobel is bound by its standard terms and conditions, attached as Appendix G, but only to the extent expressly provided herein and without duplication of remedy.

The liability of Akzo Nobel for any failure under this warranty shall not in the aggregate exceed an amount equal to the highest invoiced value of the coatings purchased by L-P East River from Akzo Nobel during any one consecutive twelve (12) month period within the preceding 15 years, but does not include the invoiced value of the interior product finishes.

6. This warranty does not constitute an agreement by L-P East River to purchase or an agreement by Akzo Nobel to sell. Its effective date is January 2, 2002, and it shall continue in effect until terminated by Akzo Nobel; at which time, advance notice of 6 months of such termination must be given to L-P East River. The warranty shall remain in effect on siding already coated and thereafter as to siding coated during the 6 month period.
7. This warranty applies only to production coated board made on and after the

effective date designated in this document and replaces the 15 year warranty with an effective date of May 17, 1997 except for panel siding designated as Stucco which is still subject to the January 11, 1988 15 year warranty.

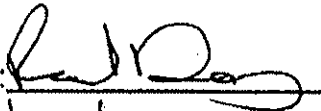
8. This warranty is not assignable or transferable by L-P East River, other than to a successor by merger, amalgamation or corporate reorganization, without the approval of Akzo Nobel which approval cannot be unreasonably withheld.
9. Akzo Nobel representatives may assist L-P East River personnel in the operation of the coating lines, applications of the coatings, and evaluations of the finished products in the role as a resource to the customer. Quality control of the L-P East River manufacturing operations and products is not a responsibility of Akzo Nobel.
10. **NO OTHER WARRANTIES OR CONDITIONS, STATUTORY OR OTHERWISE, EXPRESSED, IMPLIED, LEGAL OR CONVENTIONAL SHALL APPLY, INCLUDING WITH OUT LIMITATION ANY WARRANTIES OR CONDITIONS UNDER THE SALE OF GOODS ACT (NOVA SCOTIA) OR THE *INTERNATIONAL SALE OF GOODS ACT* (NOVA SCOTIA). EXCEPT AS PROVIDED HEREIN, AKZO NOBEL COATINGS INC. SHALL IN NO WAY BE RESPONSIBLE FOR ANY GENERAL, SPECIFIC, COMPENSATORY OR CONSEQUENTIAL DAMAGES RESULTING FROM THE FAILURE OF THE COATING MATERIAL OR OTHERWISE.**

11. This Warranty Agreement shall be governed by and construed in accordance with the laws of the Province of Nova Scotia.
12. The parties hereto have requested that the present contract and all documents or notices resulting there from or ancillary thereto be drawn up in the English language. "Les parties présentes ont demandé que Le Contrat present et tous les documents ou avis en résultant ou subordonnées à celle-ci soient redigés en langue anglaise."

Akzo Nobel Coatings Ltd.

Per: Rad Darby

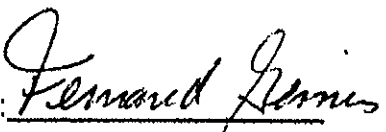
Title: Senior Vice President of Industrial Finishes

Signature:   
Date: 3/12/03

Akzo Nobel Coatings Ltd.

Per: Fernand Gemus

Title: General Manager

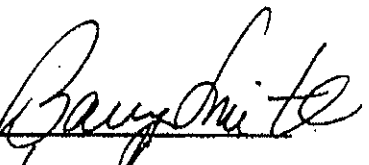
Signature:   
Date: 3/12/03

ACCEPTED BY:

L-P East River

Per: Barry Smith

Title: Mgr. Product & Process Dev.

Signature:   
Date: 3/20/03



APPENDIX AAKZO NOBEL'S PRODUCT LIST FOR L-P East River's 15 YEAR WARRANTY

Appendix A lists all coating materials which are approved for use in the production of prefinished exterior hardboard lap siding.

Akzo Nobel may need to introduce new coatings, as required. These coatings can be approved for warranty coverage by attachment of a product data sheet to this 15 year warranty.

<u>St. Jerome Code:</u>	<u>Description</u>	<u>File</u>
630-W031-102	WHITE W/B T/C	(WHITE SYSTEM ONLY)
630-C031-103	HS/HG DUAL-M W/B T/C	(GLOSS ADJUSTMENT ONLY)
630-C031-105	DUAL RESIN "M" T/C	(REGULAR TOPCOAT)
605-W031-097	L/S WHITE DUAL-M B/C C	(CUR. CT. B/C COATING LINE)
605-W031-099	HH VC WHITE DUAL-M	(FOR LT COLORS HI HIDING)
605-C031-110	NEUTRAL DUAL-M B/C	(FOR DARK COLORS ONLY)
605-Y031-112	YELLOW-G DUAL-M B/C	(REGULAR BASECOAT)
605-Y031-113	Y/O DUAL-M B/C	
605-R031-114	R/O DUAL-M B/C	
605-B031-115	BLACK DUAL-M B/C	
605-A031-116	THALO BLUE DUAL-M B/C	
605-W031-118	WHITE DUAL-M B/C	
605-G031-119	GREEN 179 EDGE COAT	
631-C031-010	NEUTRAL EDGE COAT	
631-Y031-012	YELLOW-G EDGE COAT	
631-Y031-013	YELLOW OX EDGE COAT	
631-R031-014	RED OXIDE EDGE COAT	

631-B031-015	BLACK EDGE COAT
631-A031-016	BLUE EDGE COAT
631-W031-018	WHITE EDGE COAT
631-G031-019	GREEN 179 EDGE COAT
639-C031-003	CATALYST
680-W031-061	PEAK FILLER

Mix ratios on Bright Yellow Tinters, Organic Red Tinter and Blue Tinter must be approved by Akzo Nobel before each master color is commercialized.

Mix ratios of basecoat with topcoat must not be less than 5% basecoat by volume nor more than 20% basecoat by volume for solid color topcoated products.

Mix ratios of basecoat with topcoat must not be less than 0.5% basecoat by volume or more than 20% basecoat by volume for stained or multi colored products.

**APPENDIX B****L-P East River's Approved Substrates**

Commercial lap siding cut from masters having the following L-P East River trade names and profiles:

7/16" Ridgewood, 7/16" Ultra Plank; 3/8" Ced-r'-Vue.

All panel siding is excluded. (See Article 7 for Stucco). Exterior sidings must not be used for roofing.

Akzo Nobel can accept from L-P East River new shapes and textures for 15 year warranty coverage by attachment of a covering letter to this 15 year warranty.

**Application of Coatings, Cure Conditions, and Dry Film Thickness Requirements**

The coatings are applied by varying pieces of production equipment so as to yield mutually agreed film thickness and at the same time minimize pinholes, craters, blisters, and mudcracks.

The coatings are cured by oven temperatures and line speeds so as to achieve a minimum board surface temperature (BST) range of 300-320°F at the end of #3 H.V.H.A. oven and a range of 340-360°F for at least ten (10) seconds at the end of the I.R. oven. (BST must be measured by heat tape and can be confirmed by infrared pyrometer).

Film thickness is to be determined by cross-sectional photomicroscopy using techniques agreed upon by Akzo Nobel and L-P East River (see Appendix H).

In using this film thickness technique, a cross section of coated board is prepared in such a way that a smooth undamaged edge showing the contours of the coating profile is obtained. Using a calibrated microscope with magnification of at least 100X, the film thickness (see definition under 4) is noted with measurements that must be taken representing each and every type of contour on the board. (See ASTM-5235-97 "Standard Test Method for Microscopical Measurement of Dry Film Thickness of Coatings on Wood Products" for additional details regarding dry film thickness.)

The minimum film thickness for textured boards needed to satisfy the terms of the warranty is indicated in Table I of this Appendix and made subject to all of the requirements of Appendix H.

**TABLE I****Minimum Dry Film Thickness Requirements****15 Year Lap Products**

<b>Coating System</b>	<b>Basecoat(mils) Range(3)</b>	<b>Topcoat (mils) Range(3)</b>	<b>Total (mils) Minimum (3)</b>
(1) Basecoat Only	1.5	None	1.5
(2) Basecoat plus Topcoat	1.1 - 1.3	0.3 - 0.6	1.5
Stained or Multi Colored	1.5	Continuous Film	1.5

- (1) Applies to white product only
- (2) Applies to all single color products, except white.
- (3) Applies to face and edge dry film requirements

**RECOMMENDATIONS**

The board should be allowed to cool to a temperature of 105°F before stacking in a face to face or face to back condition. Slip sheeting or an equivalent method mutually acceptable is to be used in the stacking process.

The protocol for sampling, microtome preparation, measuring technique and recording of results will be as described in Appendix H.

In addition, to ensure that the drip edge has the same durability as the face coating, product series 631-C031-010 thru 631-G031-019 is to be used for the edge application of the drip edge coating, which will provide greater elasticity of the coating upon exposure.

The painted board must be relatively free of blisters, pin-holes, and mudcracks or other physical defects which might occur during application or cure.

APPENDIX CL-P East River QUALITY PROCEDURES

The quality procedures which must be performed are:

1. Film integrity (shall include but not be limited to the following) (to be done on production-coated board)
  - MEK rub test done once per shift
  - Tape adhesion done once per shift
  - Water immersion (boil for one (1) hour)
2. Color Control
  - All wet paint approved by colorimeter measurements before production application
  - All coated production board approved visually on an hourly basis
3. An hourly on-line check list should be maintained of operating temperatures, line speeds, oven settings, and stoppages.

### Board Properties of 3/8" Siding Produced on Line 1

	Typical	Spec
Weight (lbs./Sq.Ft)	1.72	1.60 - 1.75
Thickness (inches)	0.350	.330 Min
Specific Gravity	0.94	.91 Min
M.O.R. (psi)	6100	4000 Min
Internal Bond (psi)	160	100 Min
24 Hour Water Absorption (%)	8.4	9.0 Max
24 Hour Swell (%)	4.5	5.0 Max
1 Hour Boil (%)	32	33 Max
% Linear Expansion (30% - 80%)	0.25%	.30% max CCMC .33% Max CPA

Notes: 1) The CPA specifications for 24 Water Absorption is a Max of 12% and for 24 Swell is Max of 8%. Our internal specifications are sometimes exceeded, however we do not exceed the CPA specifications.

2) The boil Max of 33% for our post-press test is our target maximum. Decisions to downgrade are typically in the range of 38% - 40%

APPENDIX D

## RAW SIDING BOARD SPECIFICATIONS: FROM SOFTWOOD FURNISH:

Note: These specifications provided by ABT Canada <sup>(1)</sup> from production data in early 1996.

NOTE <sup>(1)</sup> ABT Canada was the owner of record for manufacturing operations in 1996.

	<u>3/8"</u>		<u>7/16"</u>	
	<u>Typical</u>	<u>Spec</u>	<u>Typical</u>	<u>Spec</u>
Weight (Lbs./Sq. Ft.)	1.75		2.00	
Thickness (Inches)	0.360	0.330"Min	0.400"	0.380 Min
Specific Gravity	0.93	0.90 Min	0.95	0.90 Min
M.O.R. (psi)	4800	3500 Min	4500	3500 Min
Internal Bond (psi)	100	75 Min	100	75 Min
24 Hour Water Absorption(%)	8.0	8.0 Max	7.0	8.0 Max
24 Hour Swell (%)	4.0	5.0 Max	4.0	5.0 Max
1 Hour Boil Swell (%)	28.	35. Max	25.	35. Max
*% Linear Expansion (30-90% R.H.)	0.30	0.4	0.30	0.4

## RAW SIDING BOARD SPECIFICATIONS: FROM HARDWOOD FURNISH

Note: These specifications were certified by Forintek Canada Corp. of Quebec, Canada during 2002 from production coated board using ASTM D1037-99 "Evaluating Properties of Wood Base Fiber and Particle Panel Materials or similar Canadian test procedures.

	<u>3/8"</u>		<u>7/16"</u>	
	<u>Typical</u>	<u>Spec</u>	<u>Typical</u>	<u>Spec</u>
Weight (Lbs./Sq. Ft.)	1.75		1.95	
Thickness (Inches)	0.360	0.330"Min	0.400"	0.380 Min
Specific Gravity	0.96	0.94 Min	0.95	0.93 Min
M.O.R. (psi)	6400	4000 Min	6000	4000 Min
Internal Bond (psi)	200	100 Min	200	100 Min
24 Hour Water Absorption (%)	8.5	9 Max	7.5	8.0 Max
24 Hour Swell (%)	4.0	5.0 Max	4.0	5.0 Max
1 Hour Boil Swell (%)	29.	33. Max	28.	33. Max
*% Linear Expansion (30-90% R.H.)	0.3	0.4 Max	0.3	0.4 Max



## APPENDIX D (continued)

Any surface profile that is cut, grooved or worked following pressing must be free of rough surface fibers that could lead to fiber popping and film failure.

**L-P East River shall inform Akzo Nobel, in writing, of any major changes in board specifications, composition or surface treatment at least sixty (60) days before such changes are instituted; where those changes could affect the protective and decorative properties and/or the adhesion of the coatings to the board.**

APPENDIX ECOMPENSATION SCHEDULE

Akzo Nobel Coatings Ltd. warrants the Akzo Nobel Mono-color and Semi-Clear Coatings Systems, when applied as per the conditions set forth in Appendix B, for a period of fifteen (15) years on a pro-rated basis, as follows:

<u>WARRANTED YEAR</u>	<u>PERCENT COMPENSATION</u>	
	<u>1) SINGLE COLOR</u>	<u>(2) STAINED OR MULTICOLORED</u>
1	100	100
2	100	100
3	100	100
4	100	100
5	100	100
6	90	82
7	80	64
8	70	46
9	60	28
10	50	10
11	40	8
12	30	6
13	20	4
14	10	2
15	10	2
16	0	0

(1) Refers to warranted article 2, item c only.

(2) Refers to warranted article 2, item d only.

Akzo Nobel Coatings Ltd., reserves the right to limit their liability to those claims only where Akzo Nobel's liability has been established pursuant to the terms of warranty contained herein.

In addition L-P East River reserves the right to change its warranty, Akzo Nobel, however, does not necessarily have liability beyond the above description of financial liability.

APPENDIX F

COATING SPECIFICATIONS (Filed Separately)

APPENDIX G

AKZO NOBEL STANDARD INVOICE & SALES CONDITIONS (Filed Separately)

APPENDIX HPROTOCOL FOR SAMPLING, MICROTOME PREPARATION, MEASURING  
TECHNIQUE AND RECORDING OF RESULTS

- 1) The L-P East River grader randomly chooses a #1 board, twice a shift, at the 2nd and 6th hour of every shift.
- 2) A 1" x 2 1/8" sample representing the average texture profile is cut out of each master sample chosen at least 2 feet from either end of the board. For grooved boards, the sample has to include part of one groove.
- 3) A microtome is prepared by sanding and polishing the 1" x 2 1/8" sample.
- 4) L-P East River measures each microtome and then turns it over to Akzo Nobel for review. Akzo Nobel then returns the microtome to L-P East River for storage.
- 5) Akzo Nobel will agree with L-P East River measurements on a weekly basis.
- 6) L-P East River and Akzo Nobel agree that the dry film thickness can be designated by evaluating the dry film thickness of seven peak areas on textured board and then averaging five values of peak readings after disregarding the "high" and "low" peak readings of the seven measurements providing that no value lower than 1.2 mils is used in the averaging calculation. Such averaging techniques apply only to representative peak readings on textured boards; flat, valley and shoulder readings are not to be included in the designated dry film thickness number previously described, but flat, valley and shoulder areas must meet the minimum film thickness requirements of the warranty as described in Appendix B.

- 7) The results of the dry film thickness evaluation must be kept in a logbook by L-P East River along with the production date and board back stamp number for the duration of the warranty.
- 8) All of the above is in reference to the best method of determination toward achieving the required dry film thickness with minimum testing requirements. However, in the event of a claim relating to dry film thickness requirement, the criterion for deciding if the required film layer is adequate, would be decided from a review of the retained samples held both by Akzo Nobel and L-P East River from the actual production run in question.

If changes are necessary for the protocol, Akzo Nobel can do so by attachment of a covering letter to this 15 year warranty. For additional reference, see ASTM D5235-97 "Standard Test Method for Microscopical Measurement of Dry Film Thickness of Coatings on Wood Products".